SHEET 1 OF 2

Substitute for forms 1449A/PTO & 1449B/PTO

APR 3 0 2004

FIRST INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTORNEY'S DKT NO. APPLICATION NO. 10/621,718

APPLICANT
Robert M. Carlson, et al.

FILING DATE
July 16, 2003

APPLICATION NO. 10/621,718

GROUP
2811

		Ţ	J.S. PATENT DOCUMENTS				
Examiner Initials_	Document Number	Kind Code (if known)	kind Code Name of Patentee or Applicant			/Public Date DD-YY	(YY)_
RK	5,019,660		Chapman et al.	Chapman et al.			91
RK	5,053,434		Chapman			10-01-1991	
RK	6,287,765	B1	Cubicciotti		09-11-2001		
RK	6,510,359	B1	Merkle et al.		01-	21-20	103
RK	6,531,107	B1	Spencer et al.		03-	11-20	103
		<u> </u>					
		FOI	REIGN PATENT DOCUMENTS				
Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publicat (MM-DD-YYY)		Trans Yes	No T
				_			\vdash
							
				- 			
							\vdash
			TENT LITEDATURE ROCUMENTS				
			TENT LITERATURE DOCUMENTS				
Examiner	Includ item (bool	e name of author k, magazine, jour	(in CAPITAL LETTERS), title of the article (whenal, serial, symposium, catalog, etc.), date, pag	e(s), volume-issue n	of the umber(s).	
Initials RR	publisher, city and/or country where published. Z. ASFARI, et al., "Molecular Machines," Journal of Inclusion Phenomena and Macrocyclic Chemistry," 2000, pp. 103-118, Vol. 36, Kluwer Academic Publishers, The Netherlands						
RK	C.R. BRUNDLE, et al Heinemann, Stoneha		Microscope," Encyclopedia of Materials Charac	terization, 1992, p. 7	03, But	terwort	h -
RK	K.E. DREXLER, "Na	noscale Structura	al Components,* <i>Nanosystems: Molecular Mach</i> , Inc., New York, NY, USA	ninery, Manufacturing	, and C	omput	ation,
	K.E. DREXLER, "M	obile Interfaces a	nd Moving Parts," Nanosystems: Molecular Ma Wiley & Sons, Inc., New York, NY, USA	chinery, Manufacturi	ng, and		
RK	KE DREXLER. "Inte	ermediate Subsy	stems," Nanosystems: Molecular Machinery, Ma	anufacturing, and Co	mputati	ion, 199	92, pp
	320-341, John Wiley	& Sons, Inc., Nev	v York, NY, USA	Strategies," 1994, Ar	nnu. Re	v. Biop	hvs.
RK	Biomol. Struct., pp. 3	K. E. DREXLER, "Molecular Nanomachines: Physical Principles and Implementation Strategles," 1994, Annu. Rev. Biophys. Biomol. Struct., pp. 377-405, Vol. 23, Annual Reviews Inc., USA					
	A.A. GAKH, et al., "M	lolecular gearing	systems," Chemlech, November 1997, pp. 26-3	33			
- 	M.F. HAWTHORNE, et al., "Building to Order," Chemistry in Britain, April 1996, pp. 32-36 C. JOACHIM, et al., "Single Molecular Rotor at the Nanoscale," Structure and Bonding, 2001, pp. 1-18, Vol. 99, Springer-						
	Verlag Berlin Heidelberg, New York, NY, USA						
	P KASZYNSKI et al	"Toward a Mole	cular-Size Tinkertoy Construction Set. Prepar	ration of Terminally F	unction	alized	
RK	Verlag Berlin Heidelberg, New York, NY, USA						
RK	J. MULLER, et al., "Rigid-Rod Oligo-p-Carboranes for Molecular Tinkertoys. An Inorganic Langmuir-Blodgett Film with a Functionalized Outer Surface," J. Am. Chem. Soc., 1992, pp. 9721-9722, Vol. 114						
RK	E.A. RIETMAN, "4.3. Springer-Verlag Berli	5 Molecular 'Lego n Heidelberg, Ne	os' and 'Tinkertoys'," <i>Molecular Engineering of N</i> w York, NY, USA				
- RK -	DELL COLDMAD of	ol "Molocular Po	de 1 Simola Avial Pade " Cham Rev. 1999 (op. 1863-1933, Vol. 9	9, No.	7	
	M. SHEN, et al., "Fin	ite T _a Symmetry I	Models for Diamond: From Adamantane to Sup	eradamantane (C ₃₅ F	l ₃₀),"		
DIZ	RK D. SU, et al., "Molecular tectonics," Supramolecular Chemistry, 1995, pp. 171-178, Vol. 6, Overseas Publishers Association, Amsterdam, The Netherlands						

SHEET 2 OF 2

Substitute for forms 1449A/PTO & 1449B/PTO	ATTORNEY'S DKT NO. APPLICAT 005950-832 10/621,7			
FIRST INFORMATION DISCLOSURE	APPLICANT Robert M. Carlson, et al.			
STATEMENT BY APPLICANT	FILING DATE July 16, 2003	GROUP 2811		

	NON PATENT LITERATURE DOCUMENTS
Examiner Initials	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
Initials R.K.	J. VACEK, et al. "A molecular Tinkertoy construction kit: Computer simulation of molecular propellers," New J. Chem., 1997 pp. 1259-1268, Vol. 21, No. 12, CNRS-Gauthier-Villars
RK	J. VACEK, et al., "Molelcular dynamics of a grid-mounted molecular dipolar rotor in a rotating electric field," PNAS, May 8, 2001, pp. 5481-5486, Vol. 98, No. 10

Examiner Signature	/Robert Kunemund/	Date Considered	06/26/2006
EVALUATED. I-	that if reference appointment urbother or not citation is in conformance with	MPFP 6609	Draw line through citation if not in conformance and not

EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

SHEET 1 OF 1

							<u> </u>	<u> </u>
Substitute for forms 1449A/PTO & 1449B/PTO			ATTORNEY'S DKT NO.					
				005950-832 10/621,718				
FIRSTEINFORMATION DISCLOSURE				APPLICANT				
				Robert M. Carlson, et al.				
/o':	STATEMENT I	BY APPLIC	CANT	FILING DATE	GROUP			
<u></u>	- Ank and			July 16, 2003	2811			
	1 5 7000 25							
٠,٧٥٠	I I HAGE HIE		J.S. PATENT D	OCUMENTS				
	TRAV					Issu	e/Public	etion
		Kind Cade (if known)	N	lame of Patentee or Applican of Cited Document	τ	IMA	Date 1-DD-Y	Y YY)
Initials RK	5.347.063	A	Shen	or oned becamera			-13-19	<u>_</u>
RK-	0,047,000	A1	Dahl, et al.				-19-20	
يـــــــــــــــــــــــــــــــــــــ	2002/0193648	I AI	Dani, et al.			1 12	- 19-20	JUZ
			REIGN PATENT	DOCUMENTS				
Examiner	Document						slation	
Initials	Number	(if known)	Country (MM-DD-YY				Yes	No
<u> </u>	WO 01/27028	A1	PCT		04-19-2001		X	
<u> </u>								<u> </u>
		NON PA	TENT LITERAT	URE DOCUMENTS				
				ERS), title of the article (when				
Examiner	item (bool	k, magazine, jour		m, catalog, etc.), date, page	s), volume-issue r	nuper	(s),	
Initialo	International Search I	Paged from BCT		for country where published.				
RK-				ngton, pp. 27-32, October 16	2000			
RK	1			ndoid, Nanometer-Sized Dian	•	Science	299-96	3-99
1	(2003).	ation and Sudell	no or riigher Olambi					
RK	Drexler, K.E., "Nanosystems - Molecular Machinery, Manufacturing, and Computation", John Wiley & Sons, pp. 238-248, 258-							
DK	The same of the sa	271, 293-319 and 320-341 (1992).						
RK		Gudipati, M.S., et al., "Infrared Spectra of [n]Staffanes", J. Phys. Chem. 96:10165-10176 (1992).						
RK	Gust, D., "Molecular Wires and Girders", Nature 372:133-134 (1994).							
- DX		Ikkala, O, et al., "Functional Materials Based on Self-Assembly of Polymeric Supramolecules", Nature 295:2407-2409 (2002).						
RK RK				tal Structures", Science 295:				
1				r", Science 295:2400-2402 (2				
RK	Merkle, R.C., "Molecu	lar Building Bloc	ks and Developmen	t Strategies for Molecular Na	notechnology", Na	notechi	nology	11:89-
	99 (2000). Moore, J.S. et al., "Crafting Molecular Based Solids", Chemistry & Industry, pp. 556-560, July 18, 1994.							
RK-		Reinhoudt, D.N., et al., "Synthesis Beyond the Molecule", Science 295:2403-2406 (2002).						
15.77	reinfloud, D.N., et al., Synthesis beyond the Molecule , Science 283.2403-2406 (2002).							

Examiner Signature	Date Considered	

Risrivastava, D., "A Phenomenological Model of the Rotation Dynamics of Carbon Nanotube Gears with Laser Electric Fields",

Rietman, E.A., "Molecular Engineering of Nanosystems", Springer-Verlag, New York, pp. 148-149 (2001).

Sauvage, J-P., "Molecular Machines and Motors", Springer-Verlag, New York, pp. 19-52 (2001). Schultz, W., "Crafting a National Nanotechnology Effort", C&EN pp. 39-42, October 16, 2000.

Rouhi, A.M., "Tinkertoy Dreams", C&EN 79(31): 46-49 (2001).

Nanotechnology 8:186-192 (1997).

Service, R.F. et al., "Strength in Numbers", Science 295:2395-2397 (2002).

Whitesides, G.M. et al., "Self-Assembly at All Scales", Science 295:2418-2421 (2002).

RK RK

EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Commissioner for Palents, P.O. Box 1450, Alexandria, VA 22313-1450.

SHEET 1 OF 1

ATTORNEY'S DKT NO. APPLICATION NO. 005950-832 10/621,718			
APPLICANT Robert M. Carlson, et al.			
FILING DATE July 16, 2003	GROUP 2811		
	O05950-832 APPLICANT Robert M. Carlson, et al. FILING DATE		

			J.S. PATENT DOCUMENTS					
Examiner Ini Pak	Document Number 5,347,063	Kind Code (if known)	Name of Patentee or Applican of Cited Document	Issue/Publication Date (MM-DD-YYYY) 09-13-1994				
RK I	2002/0193648	A1	Dahl, et al.			12-19-2002		
	41200270133040				12-19-2	002		
	T		REIGN PATENT DOCUMENTS					
Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publicati		nslation No		
Initials ICIC	WO 01/27028	A1	PCT	04-19-2001				
		NOVICA	TENT LITER AT UP - DOCUMENTS		<u> </u>	1		
			TENT LITERATURE DOCUMENTS					
Examiner Initials	item (bool	c, magazine, jour	(in CAPITAL LETTERS), title of the article (when nal, serial, symposium, catalog, etc.), date, page(publisher, city and/or country where published.					
RK-			US03/22628, Issued April 5, 2004.					
-RK	Dagnanl, R., "Building from the Bottom Up", C&EN, Washington, pp. 27-32, October 16, 2000. Dahl, J.E., et al., "Isolation and Structure of Higher Diamondoid, Nanometer-Sized Diamond Molecules", Science 299:96-99 (2003).							
RK	Drexler, K.E., "Nanos 271, 293-319 and 320	Drexler, K.E., "Nanosystems - Molecular Machinery, Manufacturing, and Computation", John Wiley & Sons, pp. 238-248, 258-271, 293-319 and 320-341 (1992).						
RK RK	Gudipati, M.S., et al., "Infrared Spectra of [n]Staffanes", J. Phys. Chem. 96:10165-10176 (1992).							
RK			", Nature 372:133-134 (1994).					
-RK	inkala, C, et al., Pulicuonal Materials Baseo of Self-Assembly of Polyment Supramolecules , Nature 295:2407-2409 (2002).							
RK.	Kato, T., "Self-Assembly of Phase-Segregated Liquid Crystal Structures", Science 295:2414-2417 (2002).							
RK	inverties, N.C., Molecular Sulfuling Blocks and Development Strategies for Molecular Nanotechnology , Nanotechnology 11:89-							
RK RK	Moore, J.S. et al., "Crafting Molecular Based Solids", Chemistry & Industry, pp. 556-560, July 18, 1994.							
RK	Reinhoudt, D.N., et al., "Synthesis Beyond the Molecule", Science 295:2403-2406 (2002).							
RK	Rietman, E.A., "Molecular Engineering of Nanosystems", Springer-Verlag, New York, pp. 148-149 (2001).							
- RK	Rouhi, A.M., "Tinkertoy Dreams", C&EN 79(31): 46-49 (2001).							
			d Motors", Springer-Verlag, New York, pp. 19-52					
-RK			echnology Effort", C&EN pp. 39-42, October 16,	2000.				
			rs*, Science 295:2395-2397 (2002).					
- PK	First Srivastava, D., "A Phenomenological Model of the Rotation Dynamics of Carbon Nanotube Gears with Laser Electric Fields", Nanotechnology 8:186-192 (1997).							
Whitesides, G.M. et al., "Self-Assembly at All Scales", Science 295:2418-2421 (2002).								

		06/26/2006
Examiner	/Robert Kunemund/Date	00/20/2000
Signature	Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.